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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO. ¹
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10/623,568

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EXAMINER

MOON, SEOKYUN

ART UNIT

PAPER NUMBER

2629

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/623,568	SUZUKI ET AL.	
	Examiner	Art Unit	
	Seokyun Moon	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/22/03 & 9/29/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statements (IDS) filed on July 22, 2003 and September 29, 2005 has been acknowledged and considered by the Examiner.

An initial copy of the PTO-1449 is included in this correspondence.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claim 5** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The limitation disclosed in the claim, "*a surrounding key comprising a ring shape larger than said opening that is fixed on an inside surface of said elastic sheet*" is not disclosed / explained in any part of the application and is not consistent with the aspect

of the invention disclosed in the specification [pg 5 lines 2-5], "*a surrounding key being a ring shape that is fixed tightly on the front surface of the elastic sheet*".

Another limitation disclosed in the claim, "*switches that detect the movement in the horizontal direction of said surrounding key*" is not disclosed / explained in any part of the application and is unable to be achieved since the surrounding key is fixed on the elastic sheet as shown in [fig. 15] and thus is not allowed to be moved in horizontal direction.

As best understood by examiner, the claim limitation "*switches that detect the movement in the horizontal direction of said surrounding key*" will be interpreted as "*switches that detect the movement in the vertical direction of said surrounding key*" for further examination purpose.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1-4** are rejected under 35 U.S.C. 102(b) as being anticipated by Kobachi et al. (U.S. Pub. No. 2001/0007449 A1, herein after referred to as "Kobachi").

As to **claim 1**, Kobachi [fig. 27] teaches an inputting device, which is disposed in an opening of a cabinet surface ("*fixing portion 6*"), comprising:

an elastic sheet ("*elastic structure 2*") having an outside surface which is disposed on an inside surface of said cabinet including said opening;

a sliding key that is fixed on the outside surface of said elastic sheet with at least a portion in said opening of said cabinet surface; and

sensors ("*photodiodes PD1 to PD4*") that at least detect movement in a horizontal direction that is substantially parallel to said cabinet surface [pars. (0112) and (0113)].

As to **claim 2**, Kobachi [fig. 27] teaches the sliding key to have a rim part ("*portion 30*") whose diameter is larger than that of the opening.

As to **claim 3**, Kobachi [fig. 27] teaches an inputting device, wherein:

the sliding key is adhered to the elastic sheet ("*elastic structure 2*") at the rim part, and

a space (the space formed on inside surface of "*fixing portion 6*" where "*elastic structure 2*" and the "*portion 30*" are placed) is formed on a portion of the inside surface of said cabinet at position adjacent to the opening, and

at least a portion of the rim part of the sliding key is disposed in the space.

As to **claim 4**, Kobachi [fig. 28] teaches an inputting device, further comprising:

a first control signal generating means (a means implemented in Kobachi's device converting the received light into electrical signals) [par. (0113) lines 3-7] that generates a first control signal corresponding to at least the moved direction of said sliding key detected by said sensors ("*photodiodes PD1 to PD4*"), wherein:

said first control signal executes the change of the position of a subject to be controlled on a display [par. (0113)].

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 1-8, 11-13, 15-17, 21-24, 26-32, 34-39, 43, 44, 46, and 49** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuda (U.S. Pat. No. 5,012,230, herein after referred to as "Yasuda") in view of Kobachi.

As to **claim 1**, Yasuda [fig. 3] teaches an inputting device, which is disposed in an opening ("*circular opening 21*") of a cabinet ("*guide member 20*") surface, comprising:

a sheet ("*supporting plate 23*") having an outside surface which is disposed on an inside surface of said cabinet including said opening;

a sliding key ("*movable member 22*") that is placed on the outside surface of said sheet with at least a portion in said opening of said cabinet surface; and

Yasuda does not teach the sheet to be elastic, the sliding key fixed on the outside surface of the elastic sheet, and sensors detecting movement in a horizontal direction [pars. (0112) and (0113)].

However, Kobachi [figs. 7 and 27] teaches an input device including an elastic material ("*elastic structure 2*") attached to a sliding key and sensors ("*photodiodes PD1 to PD4*") detecting the horizontal movement of the sliding key.

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a function of detecting the horizontal movement of the sliding key in Yasuda, as taught by Kobachi, by including Kobachi's sensors detecting movement of the sliding key in Yasuda and specifying Yasuda's sheet to be an elastic material as taught by Kobachi, to provide a delicate input control by sensing every movement of the sliding key.

As to **claim 2**, Yasuda [fig. 3] teaches said sliding key ("*movable member 22*") having a rim part whose diameter is larger than that of said opening ("*circular opening 21*").

As to **claim 3**, the modified Yasuda [Yasuda: fig. 3] as discussed with respect to the rejection of claim 1 teaches an inputting device, wherein:

said sliding key is adhered to said elastic sheet (modified "*supporting plate 23*") at said rim part, and

a space is formed on a portion of the inside surface of said cabinet (Yasuda: "*guide member 20*") at a position adjacent to said opening (Yasuda: "*circular opening 21*"), and

at least a portion of said rim part of said sliding key is disposed in said space.

As to **claim 4**, the modified Yasuda [Kobachi: fig. 7A] teaches an inputting device, further comprising:

a first control signal generating means (Kobachi: a component converting the received light into electrical signals) [Kobachi: par. (0113) lines 3-7] that generates a first control signal corresponding to at least the moved direction of said sliding key detected by said sensors (Kobachi: "*photodiodes PD1 to PD4*"), wherein:

said first control signal executes the change of the position of a subject to be controlled on a display [Kobachi: par. (0113)].

As to **claim 5**, most of the claim limitations have already been discussed with respect to the rejection of claim 1 except for a surrounding key and switches detecting the movement in the horizontal direction.

The modified Yasuda [Yasuda: fig. 2] teaches a surrounding key (Yasuda: a combination of "*electrode cover 26*" and four of "*cylindrical projections 27*") which is larger than said opening (Yasuda: "*circular opening 21*") that is fixed on an inside surface of said elastic sheet (Yasuda: modified "*supporting plate 23*") and switches ("*printed electrode 30*") that detect the movement in the vertical direction of said surrounding key [col. 5 lines 49-66].

The modified Yasuda does not teach the surrounding key being a ring shape.

However, since applicant has failed to disclose that specifying the shape of the surrounding key as a ring provides an advantage, is used for particular purpose, or solves a stated problem, it is an obvious matter of design choice to have a ring shaped surrounding key.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use any shape such as square, rectangle, and etc. for the shape

of the surrounding key, since any shape of the surrounding key would perform equally well at allowing the device user to operate the surrounding key.

As to **claim 6**, all of the claim limitations have already been discussed with respect to the rejection of claim 2.

As to **claim 7**, all of the claim limitations have already been discussed with respect to the rejection of claim 3.

As to **claim 8**, most of the claim limitations have already been discussed with respect to the rejection of claim 4 except for a second control signal.

Yasuda [fig. 2] teaches a second control signal generating means that generates a second control signal ("*motion command*") corresponding to the pushed direction of one of the edges of said surrounding key detected by one of said switches ("*printed electrode 30*"), wherein said second control signal execute the change of the position of a subject to be controlled on a display [col. 5 line 49 – col. 6 line 4].

magnetic induction to allow various design for the inputting device.

As to **claims 11 and 12**, the modified Yasuda does not disclose expressly the detecting units (claim 11: the guide with the sensor for optical detection and claim 12: the coil with the sensor for electromagnetic induction detection) for detecting the movement of the sliding key.

However, examiner takes official notice of equivalent of the detecting units indicated in claims 11 and 12 for their uses in detection of the movement of objects and the selection of any of these known technologies or devices to detect the moment of the sliding key would be within the level of ordinary skill in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify / specify the modified Yasuda's detecting unit to be a guide with the sensor for optical detection or the coil with sensor for electromagnetic induction detection depending on the input device being focusing on the input accuracy or cost.

As to **claim 13**, the modified Yasuda as discussed with respect to the rejection of claims 1 and 5 does not teach a pushing component, a contact switch, and a third control signal generating means.

However, Nishino [fig. 37B] teaches an inputting device comprising:

a pushing component ("*bump 294*") disposed on the inside surface of an elastic sheet ("*elastic beam 288*") at the position corresponding to said sliding key [par. (0227)].

a contact switch ("*switch mechanism 284*") disposed adjacent to said pushing component ("*bump 294*") that detects that said sliding key was pushed in a vertical direction that is substantially perpendicular to said cabinet surface [par. (0230)]; and

Nishino inherently teaches a third control signal generating means that generates a third control signal when said pushing component ("*bump 294*") contacts said contact switch ("*switch mechanism 284*") since it is required for Nishino to have a means for generating signal corresponding to the input by said pushing components to provide the device user a click function [par. (0230)], wherein said third control signal executes the selection or the decision of information ("*click function*") indicating by a subject to be controlled on a display.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include Nishino's pushing component and the contact switch in the modified Yasuda for additionally providing a click function [par. (0230)].

The modified Yasuda does not disclose expressly the pushing component to be made of a material that is harder than the elastic sheet and whose friction factor is smaller than the elastic sheet.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the characteristics of the material used for the pushing component disclosed in claim 13 in the modified Yasuda because the pushing component is required to be made of the material that is harder than the elastic sheet so that when the device user pushes the key with enough force to change the shape of the elastic sheet and thus makes the pushing component to touch the "*switch mechanism 284*", the component pushes the "*switch mechanism 284*" without absorbing the user's force by deforming itself. Furthermore it is required or expected to use the material having less friction factor compared to the friction factor of the elastic sheet for the pushing component because when the user applies enough force to deform or push the elastic sheet, the user shouldn't need any additional force to shift the pushing component.

As to **Claim 15**, the modified Yasuda [Nishino: fig. 61] discloses an inputting device, further comprising:

a printed circuit board (Nishino: "*circuit board 418*") on which said contact switch (Nishino: "*switch mechanism 410*") is disposed; and

a sheet (Nishino: "*support member 420*") that covers said printed circuit board and said contact switch [Nishino: par. (0272) lines 1-4].

As to **Claim 16**, the modified Yasuda [Kobachi: fig. 27] teaches an inputting device, further comprising:

a bellows portion (Kobachi: a portion of "*elastic member 2*" where the portion can be compressed and extracted) having a ring shape [Kobachi: fig. 2] formed in said elastic sheet (Kobachi: "*elastic member 2*") outside the position where said sliding key is adhered to said elastic sheet.

As to **claim 17**, the modified Yasuda teaches at least one projections ("*hook 24*") supporting said sliding key ("*movable member 22*") on the inside surface of said elastic sheet ("*supporting plate 23*") (the sliding key is supported by "*supporting plate 23*" which is supported by "*hook 24*") [col. 6 lines 14-20].

As to **claim 21**, the modified Yasuda does not teach expressly a plurality of openings in said cabinet surface and a group of keys formed on the front surface of said elastic sheet.

However, the courts have held that a mere duplication of the components of the device is generally recognized as being within the level of ordinary skill in the art. St. Regis Paper Co. v. Bernis Co. Inc. 193 USPQ 8, 11 (7TH Cir. 1977).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a plurality of sliding keys on the front surface of said elastic sheet and disposing each of the plural sliding keys in a corresponding plural

openings in said cabinet surface, to provide multiple control means allowing the device user to control the cursor on a display with more input means.

As to **claim 22**, most of the claim limitations have already been discussed with respect to the rejection of claims 1, 4, 5, and 8 except for a mobile terminal (a portable device providing mobility to the device user) and a displaying means.

The modified Yasuda [fig. 45A] discloses that the device can be a part of mobile terminal ("*portable information apparatus*") [Nishino: par. (0249)].

The modified Yasuda does not disclose a display means that displays information.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a display means in modified Yasuda to show or observe the movement of the sliding key since Yasuda teaches the use of the pointing device in a portable information apparatus which has a display means.

As to **claim 23**, most of the claim limitations have already been discussed with respect to the rejection of claim 13 except for a third controlling means.

The modified Yasuda as discussed with respect to the rejection of claim 13 inherently teaches a third controlling means executing third control signal when said pushing component made said contact switch work since it is required for Nishino to have a means for executing the signal corresponding to the input by said pushing components to provide the device user a click function [par. (0230)].

As to **claim 24**, most of the claim limitations have already been discussed with respect to the rejection of claims, 1, 4, 5, and 8 except for the sensors and the first controlling means to respond to the amount of the movement of said sliding key.

The modified Yasuda inherently teaches the sensors to detect the amount movement of the sliding key and the first controlling means to execute said first control corresponding to the amount of the movement of said sliding key since it is required to measure the amount of displacement of the sliding key for input device to control the object to be controlled on a display.

As to **claim 26**, all of the claim limitations have already been discussed with respect to the rejection of claim 15.

As to **claim 27**, the modified Yasuda inherently teaches the first controlling means to execute the change of the position displaying a subject to be controlled on the said displaying means since it is required to output the amount of displacement of the sliding key for the input device to adjust the position of the object to be controlled on a display.

As to **claim 28**, the modified Yasuda as discussed with respect to the rejection of claim 23 inherently teaches said third controlling means to execute the selection of information indicating by said subject to be controlled on said display means since said pushing component of the device is for selection function on a display.

As to **claim 29**, all of the claim limitations have already been discussed with respect to the rejection of claims 2, 3, and 22.

As to **claim 30**, all of the claim limitations have already been discussed with respect to the rejection of claims 8 and 22.

As to **claim 31**, all of the claim limitations have already been discussed with respect to the rejection of claims 23 and 30.

As to **claim 32**, all of the claim limitations have already been discussed with respect to the rejection of claims 24 and 30.

As to **claim 34**, all of the claim limitations have already been discussed with respect to the rejection of claims 26 and 31.

As to **claim 35**, all of the claim limitations have already been discussed with respect to the rejection of claim 8.

As to **claim 36**, all of the claim limitations have already been discussed with respect to the rejection of claims 28 and 31.

As to **claim 37**, most of the claim limitations have already been discussed with respect to the rejection of claims 30 except for said first controlling means and said second controlling means to execute the change of the position display a different subject (i.e. first and second) to be controlled.

However, It would have been obvious to one of ordinary skill in the art at the time of the invention to use two distinct different keys (i.e. sliding key and surrounding key) to control different object when more than two objects to be controlled are present on a display, to allow the device user to control multiple objects simultaneously.

As to **claim 38**, all of the claim limitations have already been discussed with respect to the rejection of claims 36 and 37.

As to **claim 39**, all of the claim limitations have already been discussed with respect to the rejection of claims 28, 29, and 30.

As to **claim 43**, all of the claim limitations have already been discussed with respect to the rejection of claims 12, 22, and 30.

As to **claim 44**, all of the claim limitations have already been discussed with respect to the rejection of claims 16, 22, and 30.

As to **claim 46**, all of the claim limitations have already been discussed with respect to the rejection of claims 18, 22, and 30.

As to **claim 49**, all of the claim limitations have already been discussed with respect to the rejection of claims 21, 22, and 30.

9. **Claims 9, 10, 40, and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuda and Kobachi, and further in view of Nishino et al. (U.S. Pub. No. 2002/0097224 A1, herein after referred to as "Nishino").

As to **claim 9**, the modified Yasuda as discussed with respect to rejection of claim 5 does not expressly disclose a magnet and sensors detecting the movement of said sliding key based on the change of magnetic flux density.

However, Nishino [fig. 60] teaches a magnet ("406") disposed in said sliding key (a combination of "*actuating part 464*", "*operating surface 452*", and "*major portion 444*"), and sensors ("magnet-electro transducer 408") detecting the moved direction and the amount of the movement of said sliding key on said XY plane based on the change of the magnetic flux density from said magnet corresponding to the movement of said sliding key [par. (0005) lines 1-6 and par. (0290) lines 1-8].

It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the modified Yasuda's sensors as a magnetic sensor to detect the movement of the sliding key, as taught by Nishino, instead of optical sensors, to reduce the power consumption required for transmitting light for optical sensors, thus to optimize the energy consumption of the input device.

As to **claim 10**, the modified Yasuda as discussed with respect to the rejection of claim 9 teaches an inputting device, wherein:

said sliding key [Nishino: figs. 1 and 3] provides a concave part (Nishino: the space where "magnet 16" is placed, shown in [fig. 3]) on a part of the surface where said sliding key is adhered to elastic sheet, and

said sliding key is adhered to said elastic sheet by disposing said magnet (Nishino: "16") in said concave part, and

said magnet is sealed in said sliding key [Nishino: fig. 3].

As to **claim 40**, all of the claim limitations have already been discussed with respect to the rejection of claims 9, 22, and 30.

As to **claim 41**, all of the claim limitations have already been discussed with respect to the rejection of claims 10 and 40.

10. **Claims 14, 25, and 33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuda and Kobachi as applied to claims 14 and 23 above, and further in view of Chuang (U.S. Pub. No. 2003/0080946 A1, herein after referred to as "Chuang").

As to **claim 14**, the modified Yasuda does not expressly teach an ignoring means that ignores said third control signal, in case that the amount of the movement of said sliding key in said horizontal direction is larger than a predetermined value.

However, Chuang [pg 3 par. (0027) lines 14-23] teaches an ignoring means ("*control module 52*") ignoring a cursor movement control signal when the amount of the movement of an input is larger than a predetermined value (the range of movement that the touch input of the predetermined mode accepts).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include an ignoring means ignoring a cursor movement controlled by the sliding key in the modified Yasuda, to differentiate between the accidental input control and the wished input control [pg 3 par. (0027) lines 17-19].

As to **claim 25**, all of the claim limitations have already been discussed with respect to the rejection of claim 14.

As to **claim 33** all of the claim limitations have already been discussed with respect to the rejection of claims 25 and 31.

11. **Claims 18, 19, 20, 42, 45, 47, and 48** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuda, Kobachi as applied to claims 1 and 5 above, and further in view of Hill et al. (U.S. Pub. No. 2003/0206154 A1, herein after referred to as "Hill").

As to **claim 18**, the modified Yasuda does not teach a concave part formed on the outside surface of sliding key.

However, Hill [fig. 8] discloses a pointing device ("*actuator 60*") which has a concave part ("*central concave aperture 64*") formed on the front surfaces of the device [par. (0028) lines 1-5].

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concave part on the outside surface of Hill's pointing device in the modified Yasuda so that the sliding key of Yasuda forms well to the user's finger thus providing a better control [par. (0010) lines 5-9].

As to **claims 19 and 20**, the modified Yasuda [Hill: fig. 6] teaches a nonskid component ("*resilient material*") disposed on the front surface of said sliding key ("*actuator 34*") and one or more projections ("*conical flare 58*") formed on the front surface of said sliding key [Hill: par. (0027) lines 9-11].

As to **claim 42**, all of the claim limitations have already been discussed with respect to the rejection of claims 11, 20, and 30.

As to **claim 45**, all of the claim limitations have already been discussed with respect to the rejection of claims 17, 22, and 30.

As to **claim 47**, all of the claim limitations have already been discussed with respect to the rejection of claims 19, 22, and 30.

As to **claim 48**, all of the claim limitations have already been discussed with respect to the rejection of claims 20, 22, and 30.

Response to Arguments

Art Unit: 2629

11. Applicant's arguments with respect to claims 1-49 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seokyun Moon whose telephone number is (571) 272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2629

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 26, 2006

S.M.

AMR A. AWAD
PRIMARY EXAMINER
Amr A. Awad